

CLAIMS

1. An axle assembly comprising:
 - a tube disposed about a longitudinal axis and having first and second end portions and a center portion;
 - wherein said first and second end portions have a uniform wall thickness and said center portion has a wall thickness that is uniform at first and second axially spaced segments and a non-uniform wall thickness both between the axially spaced segments and between each of the axially spaced segments and said tube end portions.
2. An axle assembly as described in claim 1, wherein said tube first and second end portions and center portion have a common outer diameter.
3. An axle assembly as described in claim 1, wherein said tube center portion between said first and second axially space segments has an generally elliptical cross-sectional interior contour.
4. An axle assembly as described in claim 3, wherein a wall thickness at said center portion axially spaced segments is greater than a minor wall thickness of said center portion between said axially spaced segments.
5. An axle assembly as described in claim 3, wherein a wall thickness at said center point axially spaced segments is at least equal to a major wall thickness of said center portion between said axially spaced segments.
6. An axle assembly as described in claim 1, wherein said center portion between said first and second axially spaced segments and respective first and second end portions has an interior contour which is elliptical.
7. An axle assembly as described in claim 6, wherein a wall thickness at said center portion axially spaced segments is greater than a minor wall thickness of said center portion between said axially spaced segments and said tube end portions.

8. An axle assembly as described in claim 6, wherein a wall thickness at said center portion axially spaced segments is at least equal to a major wall thickness of said center portion between said axially spaced segments and said tube end portions.

9. An axle assembly as described in claim 2, where said center portion axially spaced segments provide points of suspension system attachment and said wall thickness of said center portion axially spaced segments is greater than said major wall thickness of said center portion.

10. An axle assembly, comprising:

a constant outer diameter tube having first and second end portions and a center portion;

wherein said first and second end portions have uniform wall thickness and said center portion has a wall thickness that is uniform at first and second axially spaced segments and a generally elliptical interior diameter with a non-uniform wall thickness between the axially spaced segments and between each of the axially spaced segments and said tube end portions.

11. An axle assembly comprising:

a tube having first and second end portions and a center portion, the first and second end portions defining suspension arm attachment points;

wherein the center portion has a first wall thickness and the first and second end portions have a second wall thickness greater than the first wall thickness, the first wall thickness transitioning to the second wall thickness inboard of the suspension arm attachment points.

12. An axle assembly comprising:

a tube having a center portion and first and second portion defining suspension arm attachment points juxtaposed by said center portion;

third and fourth portions outboard of said respective first and second portions and fifth and sixth portions at extreme ends of said tube;

wherein a wall thickness of said first and second portions is greater than a wall thickness of said center portion and third and fourth portions; and

a wall thickness of said fifth and sixth portions is greater than a wall thickness of said center portion and said third and fourth portions.